

CHAPTER 7B. SIGNS

Section 7B.01 Size of School Signs

Standard:

The sizes of signs and plaques to be used on conventional roadways in school areas shall be as shown in Table 7B-1.

The Conventional Road sign size shall be used on public roads, streets, and highways unless engineering judgment determines that a Minimum or Oversized sign size would be more appropriate.

The Oversized sign size shall be used on expressways.

Option:

The Oversized sign size may be used for applications that require increased emphasis, improved recognition, or increased legibility.

The Minimum sign size may be used on local residential streets, in urban areas, and where there are low traffic volumes and low vehicle speeds, as determined by engineering judgment.

Section 7B.02 Illumination and Reflectorization

Standard:

The signs used for school area traffic control shall be retroreflectorized or illuminated.

Section 7B.03 Position of Signs

Guidance:

Signs should be placed in positions where they will convey their messages most effectively without restricting lateral clearance or sight distances. Placement therefore should consider highway design, alignment, vehicle speed, and roadside development.

Signs should have a maximum practical clearance from the edge of the traveled way for the safety of vehicles that might leave the roadway and strike the sign supports. Except as noted in the Option, signs should not be closer than 1.8 m (6 ft) from the edge of a paved shoulder, or if none, 3.7 m (12 ft) from the edge of the traveled way.

Option:

In urban areas, a lesser clearance of no less than 0.6 m (2 ft) from the face of the curb may be used. In urban areas, where sidewalk width is limited or existing poles are close to the curb, a clearance of 0.3 m (1 ft) from the curb face may be used.

Section 7B.04 Height of Signs

Support:

Section 2A.18 contains information regarding the mounting height of signs.

Section 7B.05 Installation of Signs

Support:

Section 2A.16 contains information regarding the installation of signs.

Section 7B.06 Lettering

Support:

The Federal Highway Administration's "Standard Highway Signs" book (see Section 1A.11) contains information regarding sign lettering.

Section 7B.07 Sign Color for School Warning Signs

Standard:

Except as noted in the Option, school warning signs shall have a **fluorescent yellow background with a black legend and border unless otherwise stated in this Manual for a specific sign.**

Along state owned, operated and maintained roadways, the SCHOOL BUS STOP AHEAD sign (S3-1) shall have fluorescent yellow background with a black legend and borders, the following school warning signs shall have fluorescent yellow-green background with a black legend and borders:

Table 7B-1. Size of School Area Signs and Plaques (Sheet 1 of 2)

Sign	MUTCD Code	Section	Conventional Road	Minimum	Oversized
School Advance Warning	S1-1	7B.08	900 x 900 mm (36 x 36 in)	750 x 750 mm (30 x 30 in)	1200 x 1200 mm (48 x 48 in)
School Bus Stop Ahead	S3-1	7B.10	750 x 750 mm (30 x 30 in)	—	900 x 900 mm (36 x 36 in)
Reduced Speed School Zone Ahead	S4-5, S4-5a	7B.12	900 x 900 mm (36 x 36 in)	750 x 750 mm (30 x 30 in)	1200 x 1200 mm (48 x 48 in)
School Speed Limit XX When Flashing (English)	S5-1	7B.11	600 x 1200 mm (24 x 48 in) 750 x 1500 mm (30 x 60 in)	— 600 x 1200 mm (24 x 48 in)	900 x 1800 mm (36 x 72 in)
School Speed Limit XX When Flashing (Metric)	S5-1	7B.11	600 x 1350 mm (24 x 54 in)	—	900 x 2100 mm (36 x 84 in)
End School Zone	S5-2	7B.13	600 x 750 mm (24 x 30 in)	—	900 x 1200 mm (36 x 48 in)
In-Street Pedestrian Crossing	R1-6a	7B.09	300 x 900 mm (12 x 36 in)	—	—
Speed Limit (School Use) (English)	R2-1	7B.11	600 x 750 mm (24 x 30 in)	—	900 x 1200 mm (36 x 48 in)
Speed Limit (School Use) (Metric)	R2-1	7B.11	600 x 900 mm (24 x 36 in)	—	900 x 1350 mm (36 x 54 in)
Overhead School Crossing	S2-1(2)	7B.09	2400 x 900 mm (96 x 36 in)	—	—
Unlawful to Pass Stopped School Bus	S95-1	—	600 x 900 mm (24 x 36 in)	—	—
Stop for School Bus	S95-2	—	1800 x 1800 mm (72 x 72 in)	—	—

- A. School Advance Warning sign (S1-1);
 B. SCHOOL plaque (S4-3);
 C. The “SCHOOL” portion of the School Speed Limit sign (S5-1);
 D. XXX FEET plaque (W16-2 series, S4-4(4));
 E. AHEAD plaque (W16-9p, S4-4(3));
 F. Diagonal Arrow plaque (W16-7p,);
 G. Reduced Speed School Zone Ahead sign (S4-5, S4-5a); and
 H. Overhead School Crossing sign S2-1(2).



Option:

07/09|

All school warning signs in addition to the following signs may have a fluorescent yellow-green background with a black legend and border:

- A. School Advance Warning sign (S1-1);
 B. SCHOOL BUS STOP AHEAD sign (S3-1);
 C. SCHOOL plaque (S4-3);
 D. The “SCHOOL” portion of the School Speed Limit sign (S5-1);
 E. XXX FEET plaque (W16-2 series);
 F. AHEAD plaque (W16-9p);
 G. Diagonal Arrow plaque (W16-7p,); and
 H. Reduced Speed School Zone Ahead sign (S4-5, S4-5a)

Guidance:

When the fluorescent yellow-green background color is used for school signing, a systematic approach featuring one background color within a school zone or area should be used. The mixing of standard fluorescent yellow and fluorescent yellow-green backgrounds within a school zone or area should be avoided.



07/09|

Section 7B.08 School Advance Warning Assembly (S1-1 with Supplemental Plaque)

Guidance:

The School Advance Warning assembly (see Figure 7B-1) should be installed in advance of locations where school buildings or grounds are adjacent to the highway, except where a physical barrier such as fencing separates school children from the highway.


Table 7B-1. Size of School Area Signs and Plaques (Sheet 2 of 2) 

Plaque	MUTCD Code	Section	Conventional Road	Minimum	Oversized
X:XX to X:XX AM X:XX to X:XX PM	S4-1	7B.11	600 x 250 mm (24 x 10 in)	—	900 x 450 mm (36 x 18 in) 900 x 375 mm (36 x 15 in) 1200 x 500 mm (48 x 20 in)
When Children Are Present	S4-2	7B.11	600 x 250 mm (24 x 10 in)	—	900 x 450 mm (36 x 18 in)
School	S4-3	7B.11	600 x 200 mm (24 x 8 in) 900 x 300 mm (36 x 12 in)	600 x 200 mm (24 x 8 in)	900 x 300 mm (36 x 12 in) 1200 x 400 mm (48 x 16 in)
When Flashing	S4-4	7B.11	600 x 250 mm (24 x 10 in) 750 x 375 mm (30 x 15 in)	600 x 300 mm (24 x 12 in)	900 x 450 mm (36 x 18 in)
Mon-Fri	S4-6	7B.11	600 x 250 mm (24 x 10 in)	—	900 x 450 mm (36 x 18 in)
XXX Feet or XXX Meters	W16-2	7B.08	600 x 450 mm (24 x 18 in)	—	750 x 600 mm (30 x 24 in)
XXX Ft or XXX m	W16-2a S4-4(4)	7B.08	600 x 300 mm (24 x 12 in) 750 x 300 mm (30 x 12 in)	—	750 x 450 mm (30 x 18 in) 900 x 450 mm (36 x 15 in)
Diagonal Arrow	W16-7p	7B.09	600 x 300 mm (24 x 12 in)	—	750 x 450 mm (30 x 18 in)
Diagonal Arrow (Optional Size)	W16-7p	7B.09	525 x 375 mm (21 x 15 in)	—	—
Ahead	W16-9p S4-4(3)	7B.08	600 x 300 mm (24 x 12 in) 750 x 300 mm (30 x 12 in)	—	750 x 450 mm (30 x 18 in) 900 x 375 mm (36 x 15 in)
Fines Double	S4-4(1)	7B.08	750 x 450 mm (30 x 15 in)	600 x 300 mm (24 x 12 in)	900 x 450 mm (36 x 18 in)


Standard:

The School Advance Warning assembly shall be used in advance of any installation of the School Crosswalk Warning assembly (see Figure 7B-2), or in advance of the first installation of the School Speed Limit assembly (see Figure 7B-3).

If used, the School Advance Warning assembly shall be installed not less than 45 m (150 ft) nor more than 210 m (700 ft) in advance of the school grounds or school crossings.

If used, the School Advance Warning assembly shall consist of a School Advance Warning (S1-1) sign supplemented with a plaque with the legend AHEAD (W16-9p, S4-4(3)) or XXX METERS (XXX FEET) (W16-2 or W16-2a, S4-4(4)) to provide advance notice to road users of crossing activity. 

Option:

A 300 mm (12 in) reduced size in-street School Advance Warning (S1-1) sign (see Figure 7B-4), installed in compliance with the mounting height and breakaway requirements for In-Street Pedestrian Crossing (R1-6a) sign (see Section 2B.12) or Side of Road Pedestrian Crossing, may be used in advance of a school crossing to supplement the ground-mounted school warning signs. A 300 x 150 mm (12 x 6 in) reduced size AHEAD (W16-9p) plaque may be mounted below the reduced size in-street School Advance Warning (S1-1) sign. 

Support:

Section 21.803.1 of the Motor Vehicle Law provides for designated School Zones and speed limits along segments of a highway within a 800 m (0.5 mile) radius of any school by order of the State Highway Administration or local authorities, and for speed violation penalties within a designated School Zone to be doubled.

Designated School Zones do not automatically exist around schools nor are they created simply by the installation of School Advance Warning Signs. Designated School Zones are established by definitive, official action by the authority having jurisdiction over the highway.

Standard:

School areas that are not designated School Zones but are deemed to require warning signs shall be designed with School Advanced Warning Sign (See Figure 7B-1a).

In any designated School Zone, where a school crossing guard is posted to assist in crossing a highway, the highest maximum speed limit allowed by the statute is 60 km/h (35 mph) and it shall be posted on the signs designating the School Zone (See Figure 7B-1b Sheet 2 of 2).

School areas that are not designated School Zones but are deemed to require warning signs shall be signed with a School Advance Warning Sign (S1-1A1 Assembly).

Designated School Zones without speed limit reductions shall be signed with a S1-1A1 or S1-1A2 Assembly, Speed Limit (R2-1) sign, Fines Double S4-4 (1) sign, and End School Zone (S5-2) sign (See Figure 7B-1b, and 7B-3a). For School Zones with a speed limit reduction, the zone shall be augmented by the School Speed Limit (S5-1) Sign. The School Speed Limit (S5-1) Sign shall specify the prevailing speed limit applicable during “School Hours”, or “When Flashing” if beacons are included. At the end of a School Zone, End School Zone (S5-2) Sign shall be used (See Figures 7B-3, 7B-3b, and 7B-3c).

Guidance:

School Zones should not be designated indiscriminately at all schools. Engineering judgment should be the basis for any designated School Zone. Factors used in the determination of a School Zone should be, but are not limited to, the following: speeds, ADTs, roadway classification, roadway geometrics, zoning/development of area, as well as those found in Section 7A.02.

Section 7B.09 School Crosswalk Warning Assembly (S1-1 with Diagonal Arrow)**Standard:**

If used, the School Crosswalk Warning assembly (see Figure 7B-1) shall be installed at the marked crosswalk, or as close to it as possible, and shall consist of a School Advance Warning (S1-1) sign supplemented with a diagonal downward pointing arrow (W16-7p) plaque to show the location of the crossing.

The School Crosswalk Warning assembly shall not be used at marked crosswalks other than those adjacent to schools and those on established school pedestrian routes.

The School Crosswalk Warning assembly shall not be installed on approaches controlled by a STOP sign.

School Crosswalk Warning assemblies shall not be installed on the same post or pole in a median as a Keep Right (R4-7) sign, No Left Turn (R3-2) sign, or No Left (and/or) U-Turn (R3-3(2)) sign.

Guidance:

The School Crosswalk Warning assembly should be installed at marked crosswalk(s), including those at signalized locations, used by students going to and from school (see Figure 7B-2) as determined by an engineering study.

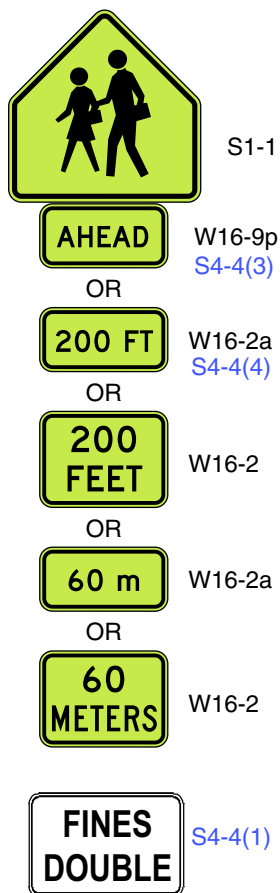
In a wide median, the School Crosswalk Warning assembly (See Figure 7B-1) should be installed to the right of the other signs.

Only one school crossing should be established across a major street at any one intersection, but two school crossings are frequently established parallel to a major street, one on each side of the intersection. Where there is only one school crossing across a highway, School Crossing assemblies (See Figure 7B-1) should be installed at the school crossing, either back-to-back, or separately but facing both directions.



Figure 7B-1. School Area Signs (Sheet 1 of 2)

School Advance
Warning Assembly



School Crosswalk
Warning Assembly



School Speed
Limit Assembly

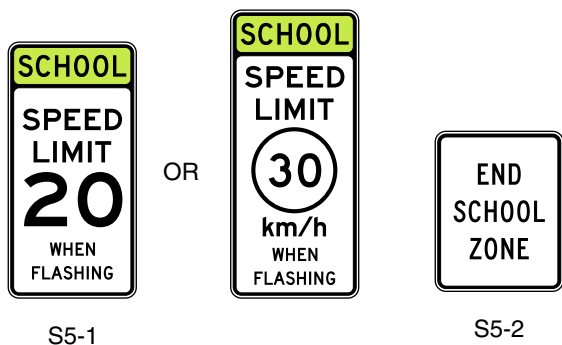
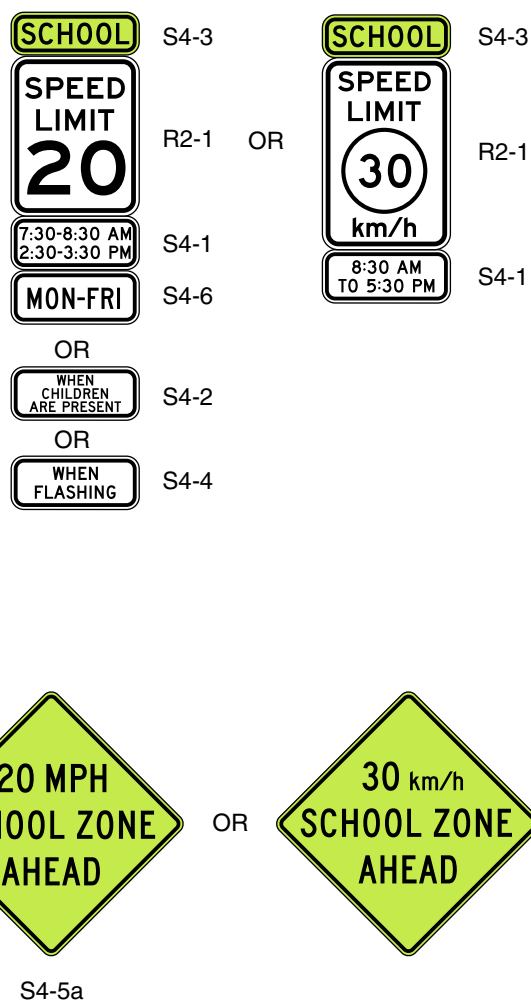
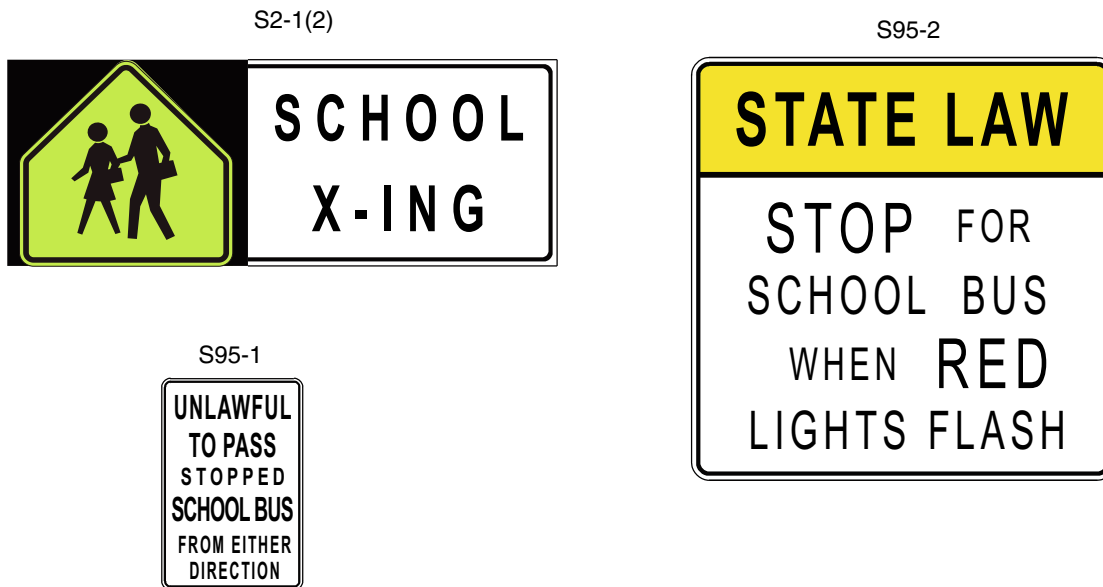


Figure 7B-1. School Area Signs (Sheet 2 of 2)**Option:**

The In-Street Pedestrian Crossing (R1-6a) sign (see Section 2B.12) may be used at unsignalized school crossings. When used at a school crossing, a 300 x 100 mm (12 x 4 in) SCHOOL (S4-3) plaque (see Figure 7B-4) may be mounted above the sign.



A 300 mm (12 in) reduced size School Advance Warning (S1-1) sign (see Figure 7B-4) may be used at an unsignalized school crossing instead of the In-Street Pedestrian Crossing (R1-6a) sign. A 300 x 150 mm (12 x 6 in) reduced size Diagonal Arrow (W16-7p) plaque may be mounted below the reduced size in-street School Advance Warning (S1-1) sign.



An Overhead School Crossing (S2-1(2)) sign (See Figure 7B-1 Sheet 2 of 2) may be installed at or near the crosswalk to supplement the ground mounted School Advance Warning (S1-1) sign. The overhead signs may be installed where additional emphasis is required either due to obstructions adjacent to the roadway, mid-block crosswalks, heavy truck traffic or other hazards which necessitate its use. This sign may be supplemented with a hazard identification beacon.



On a narrow median the School Crosswalk Warning assembly may be omitted.

Standard:

If an In-Street Pedestrian Crossing sign or a reduced size in-street School Advance Warning (S1-1) sign is placed in the roadway, the sign support shall comply with the mounting height and breakaway requirements for In-Street Pedestrian Crossing (R1-6a) signs (see Section 2B.12).



The In-Street Pedestrian Crossing sign and the reduced size in-street School Advance Warning (S1-1) sign shall not be used at signalized locations.

Section 7B.10 SCHOOL BUS STOP AHEAD Sign (S3-1)**Guidance:**

The SCHOOL BUS STOP AHEAD (S3-1) sign (see Figure 7B-1) should be installed in advance of locations where a school bus, when stopped to pick up or discharge passengers, is not visible to road users for a distance of 150 m (500 ft) in advance and where there is no opportunity to relocate the bus stop to provide 150 m (500 ft) of visibility.

**Figure 7B-1a. Examples of School Advance Sign
- Non-School Zone**

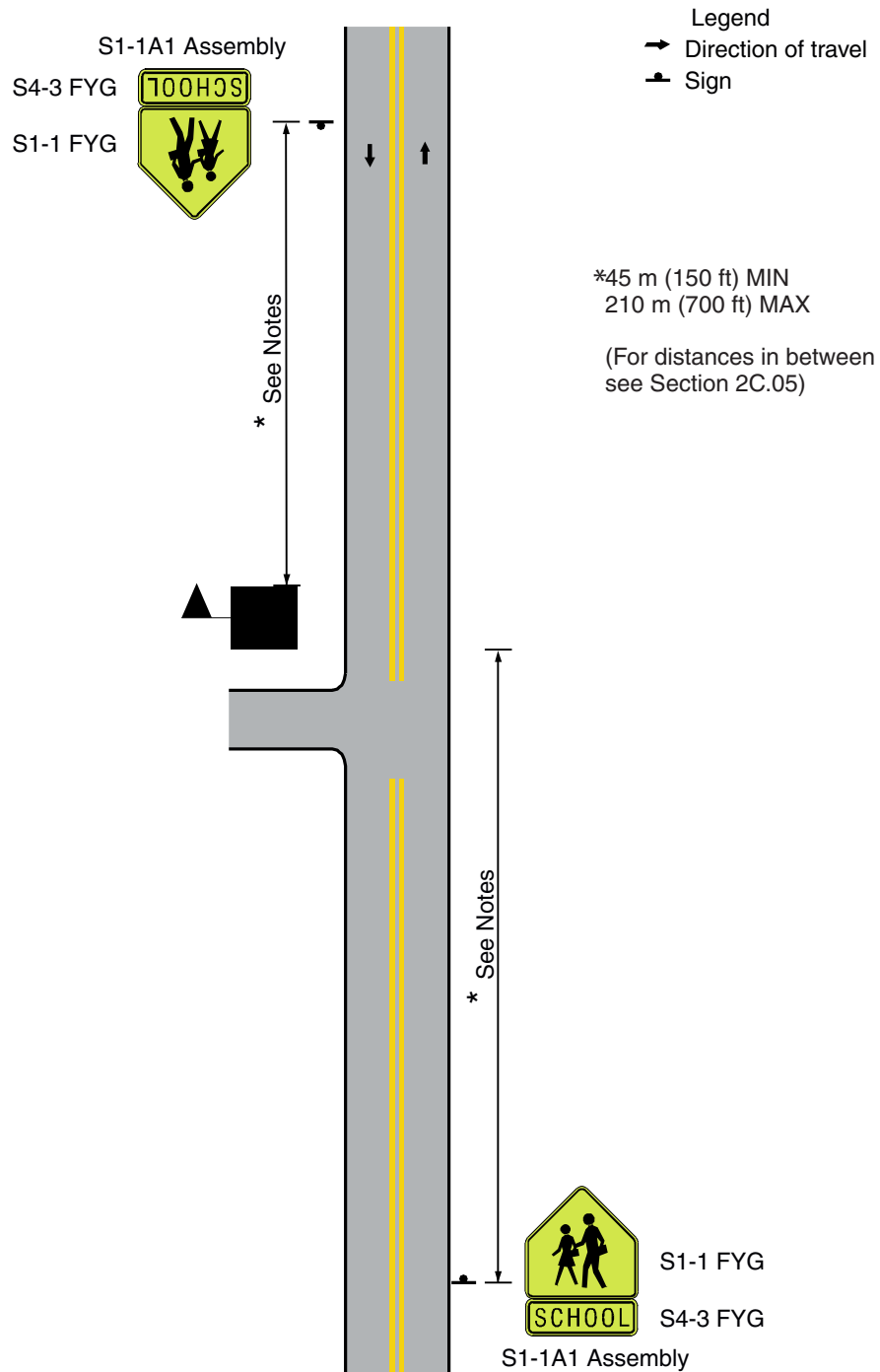
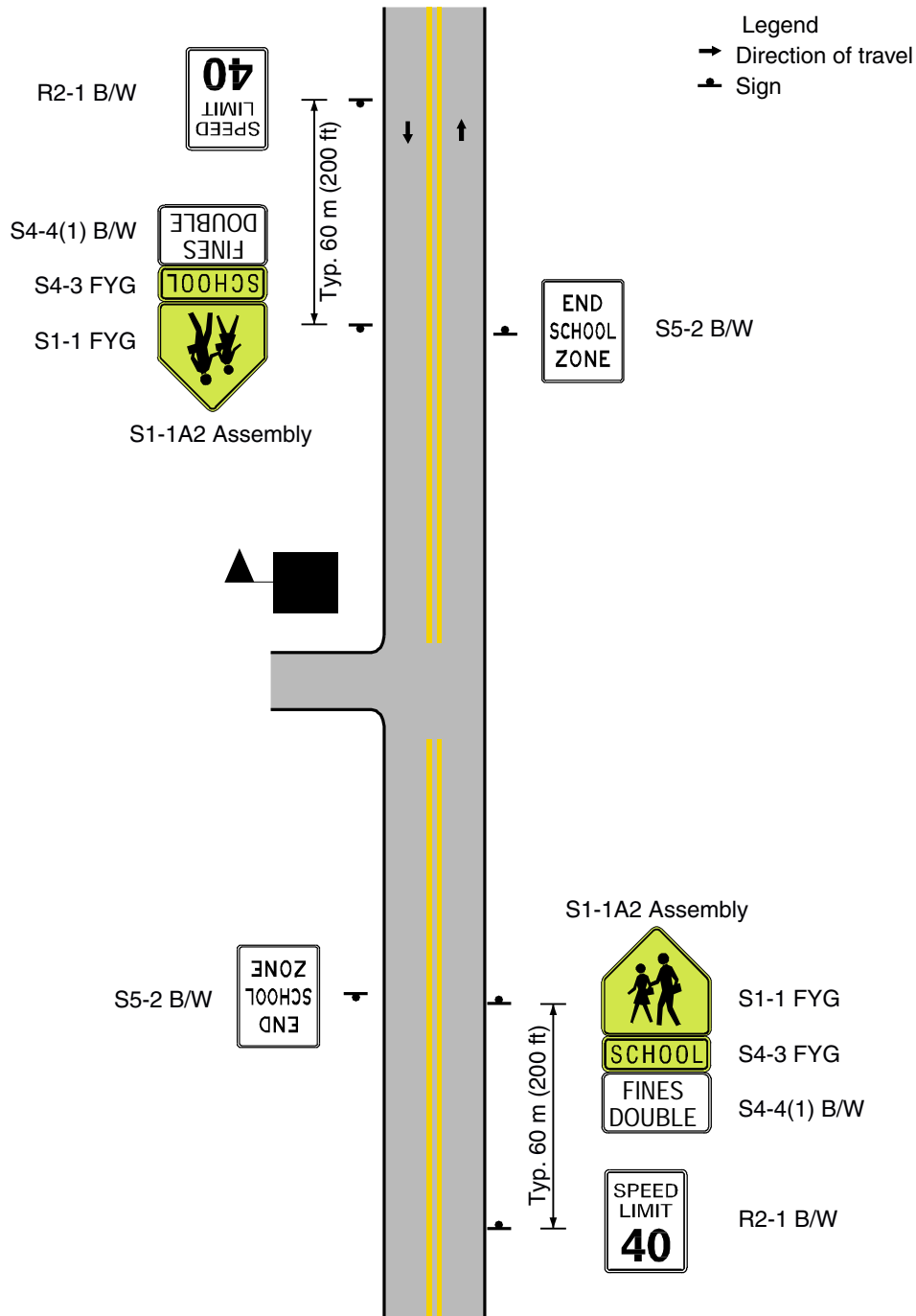


Figure 7B-1b. Examples of School Advance Sign
- School Zone without Speed Reduction (Sheet 1 of 2)



a. For Speed > 60 km/h (35 mph)



Note:

For roadways with speed limits above 60 km/h (35 mph), the Speed Limit sign should be installed 60 m (200 ft) in advance of the School Advance sign.

**Figure 7B-1b. Examples of School Advance Sign
- School Zone without Speed Reduction (Sheet 2 of 2)**

b. For Speed \leq 60 km/h (35 mph)

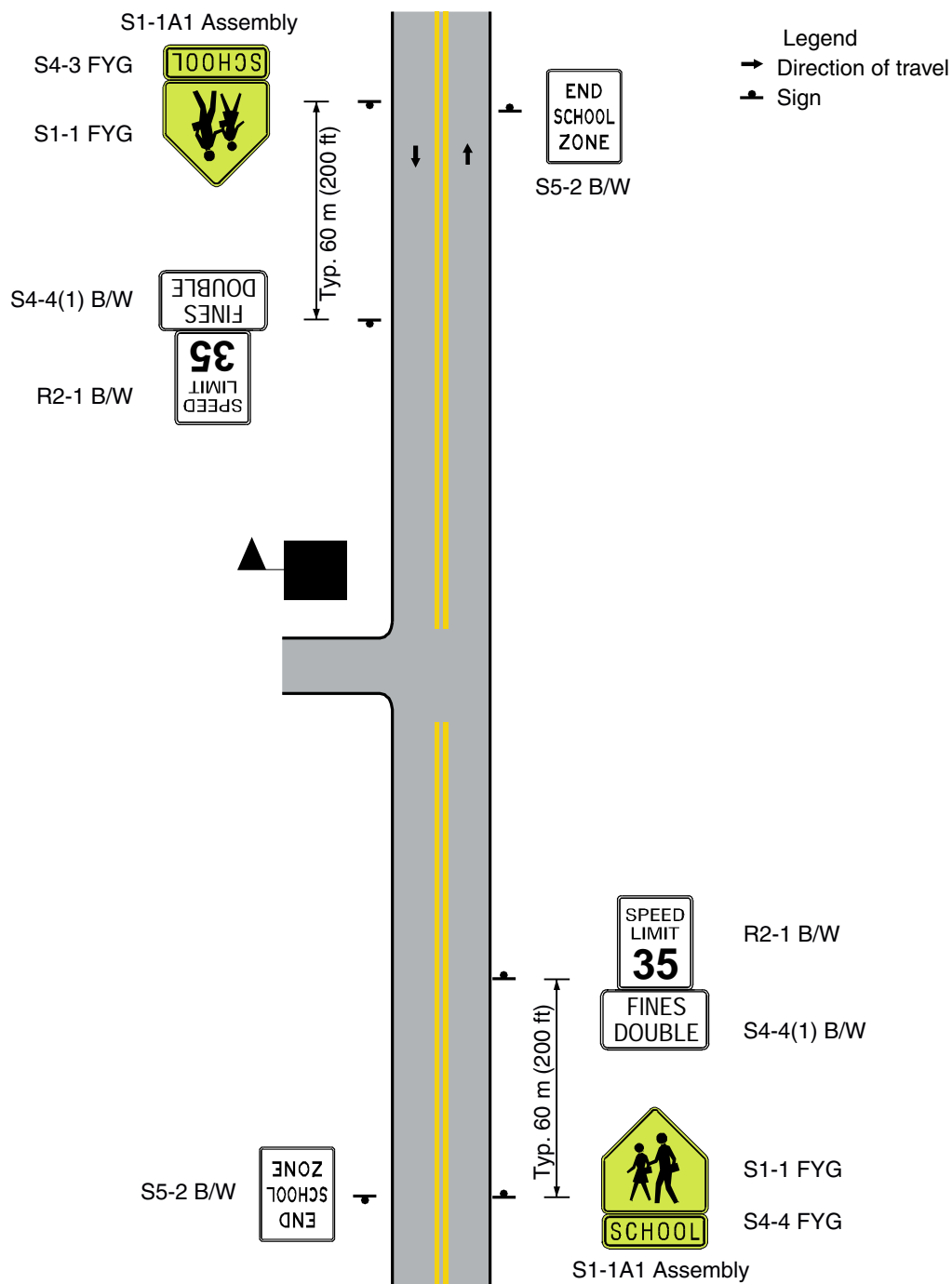


Figure 7B-2. Examples of Signing for School Crosswalk Warning Assembly 

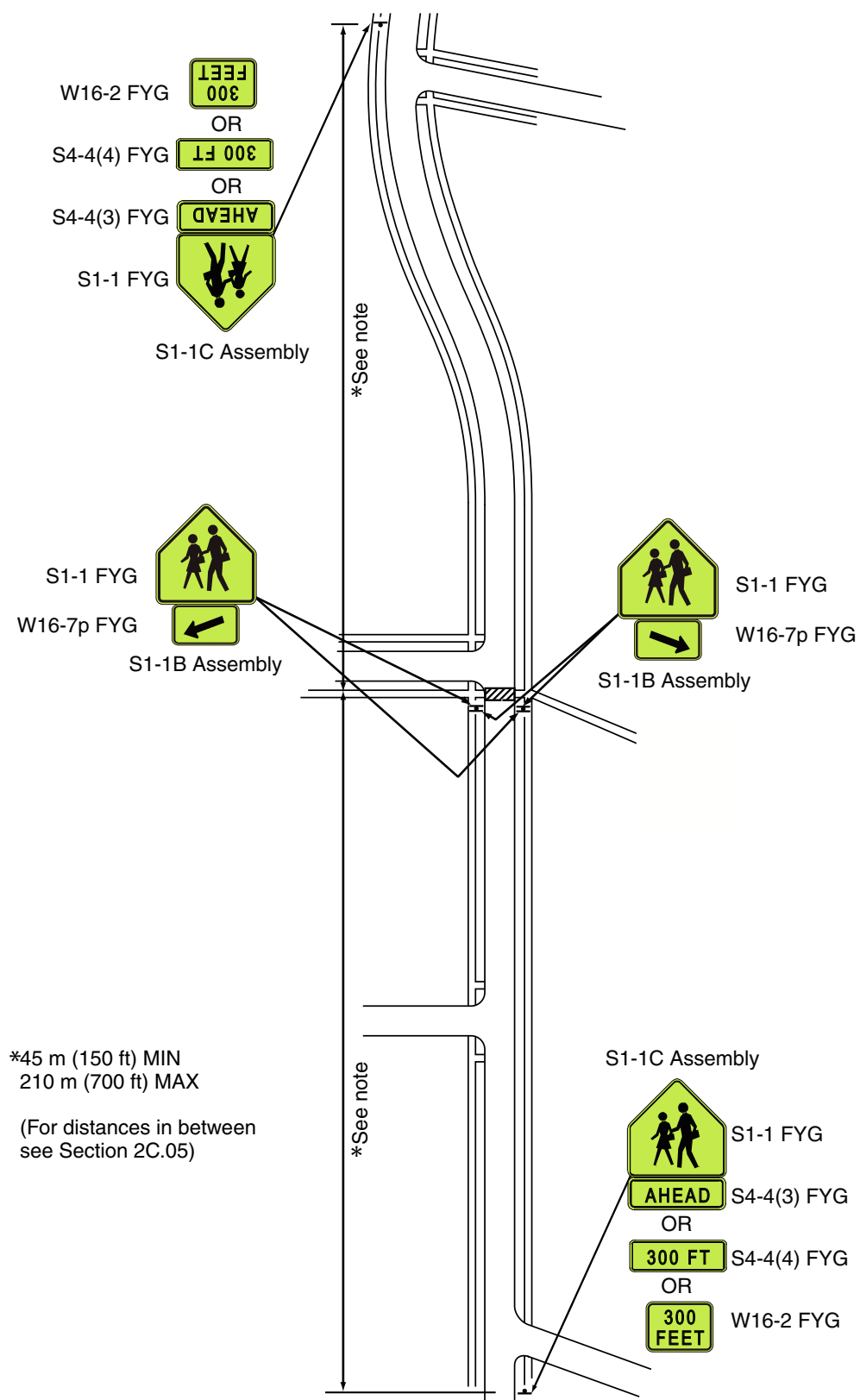


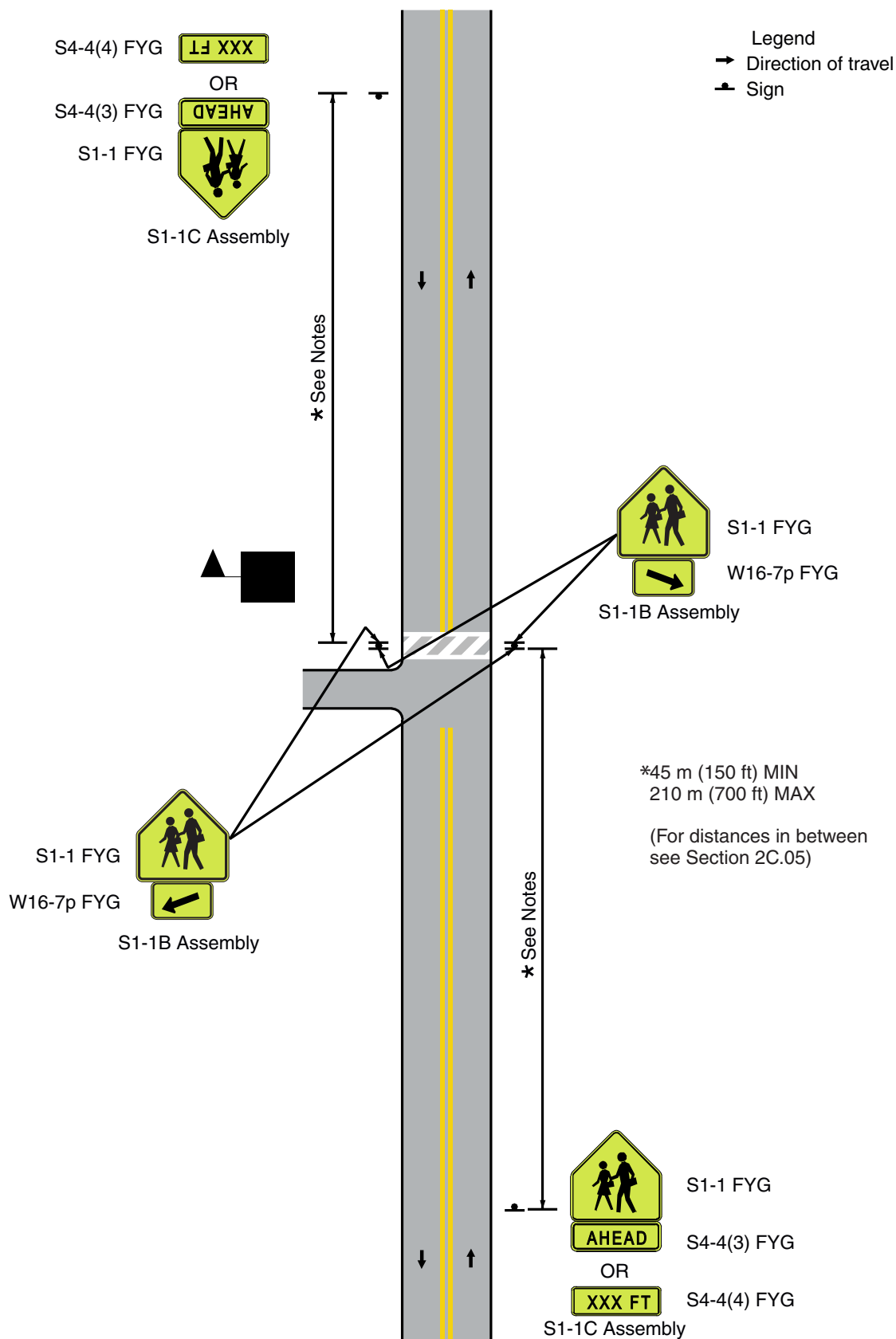
Figure 7B-2a. Examples of School Crossing Sign (Non-School Zone)

Figure 7B-3. Examples of Signing for School Area Traffic Control with School Speed Limits

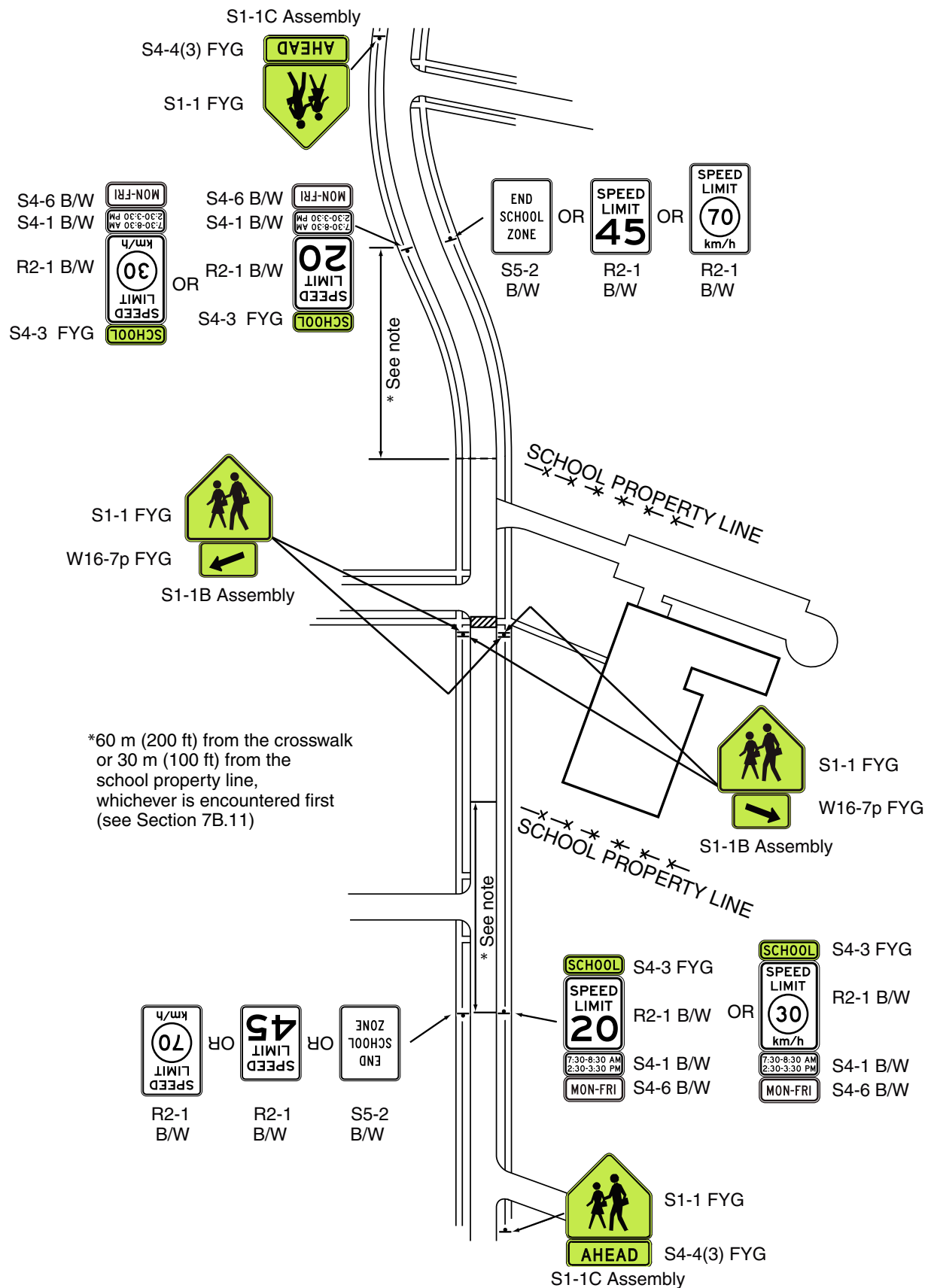


Figure 7B-3a. Examples of School Advance Sign with School Crossing
- School Zone without Speed Reduction (Sheet 1 of 2)



a. For Speed > 60 km/h (35 mph)

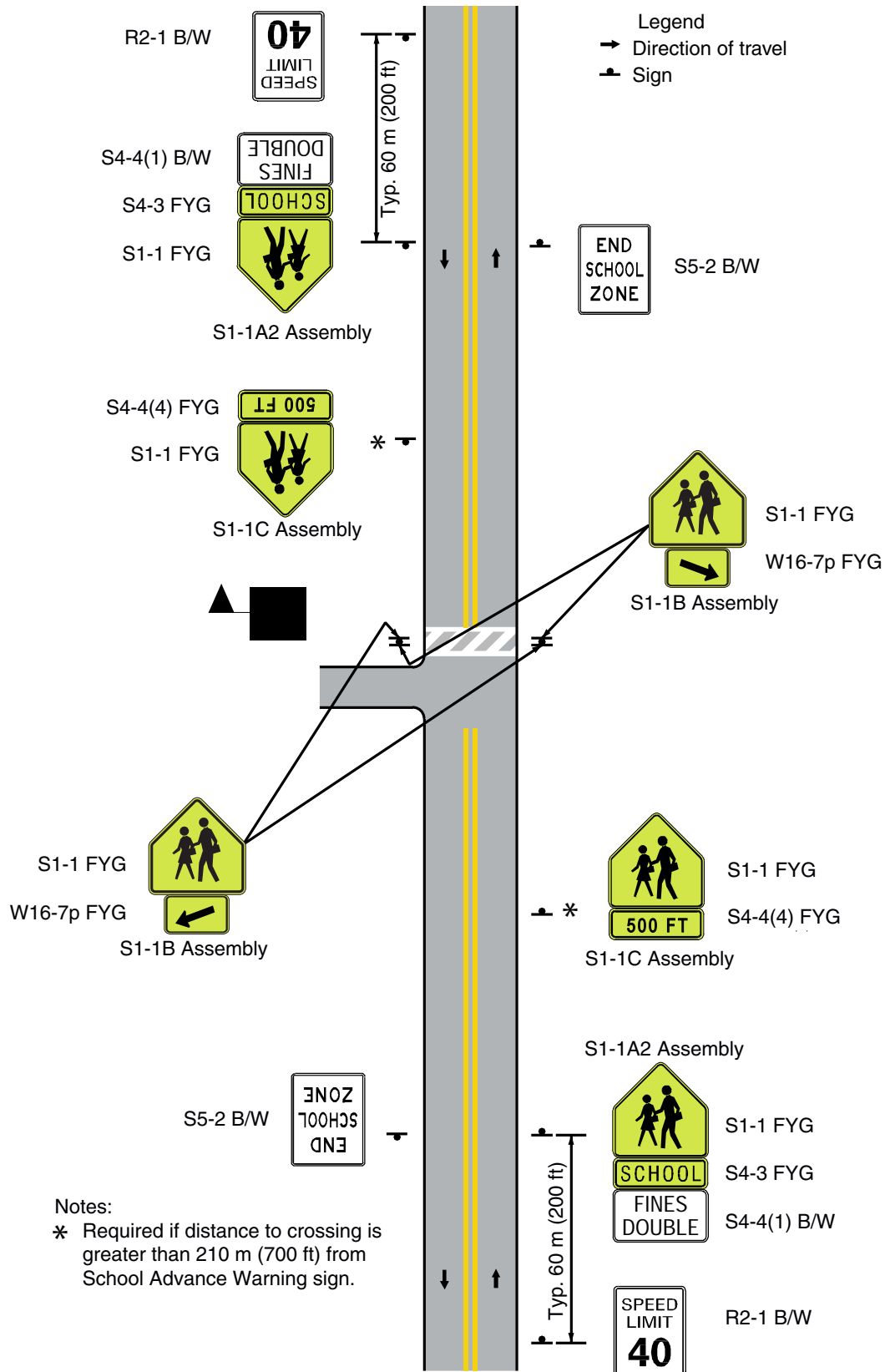


Figure 7B-3a. Examples of School Advance Sign with School Crossing
- School Zone without Speed Reduction (Sheet 2 of 2)



b. For Speed ≤ 60 km/h (35 mph)

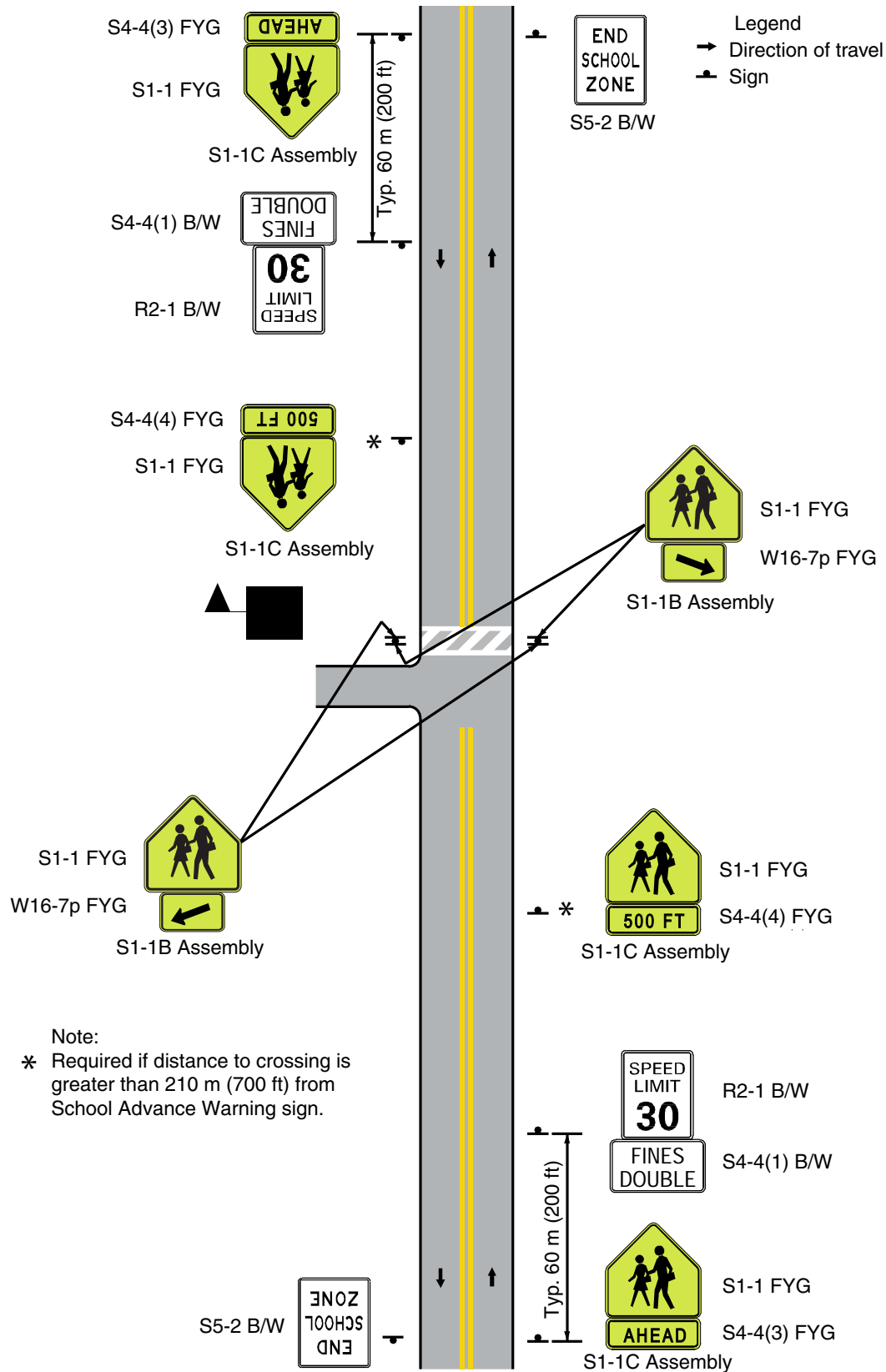
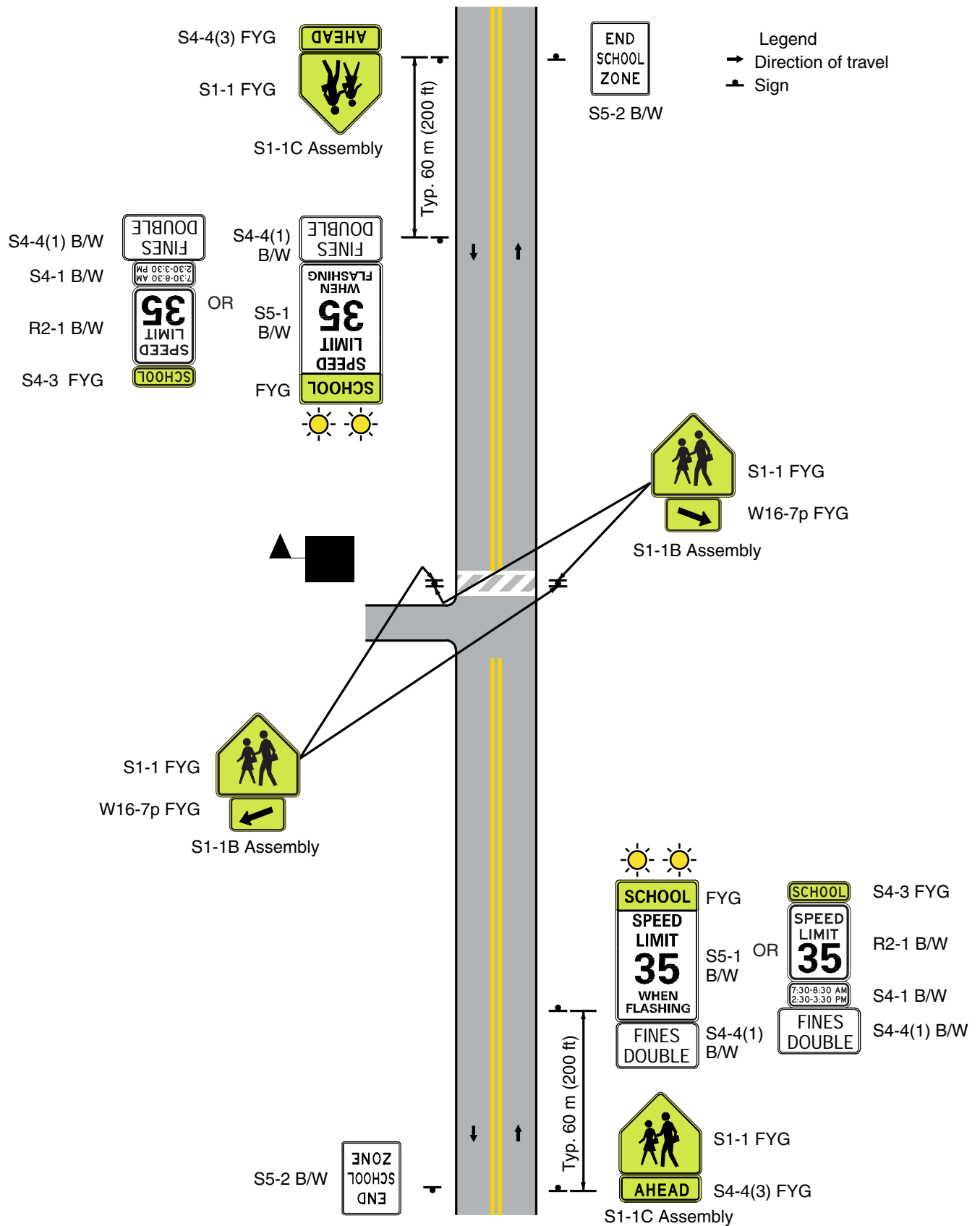


Figure 7B-3b. Examples of School Advance Sign with School Crossing - School Zone with Speed Reduction



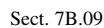


Figure 7B-3d. Examples of School Crossing Sign Not Adjacent to School Property 

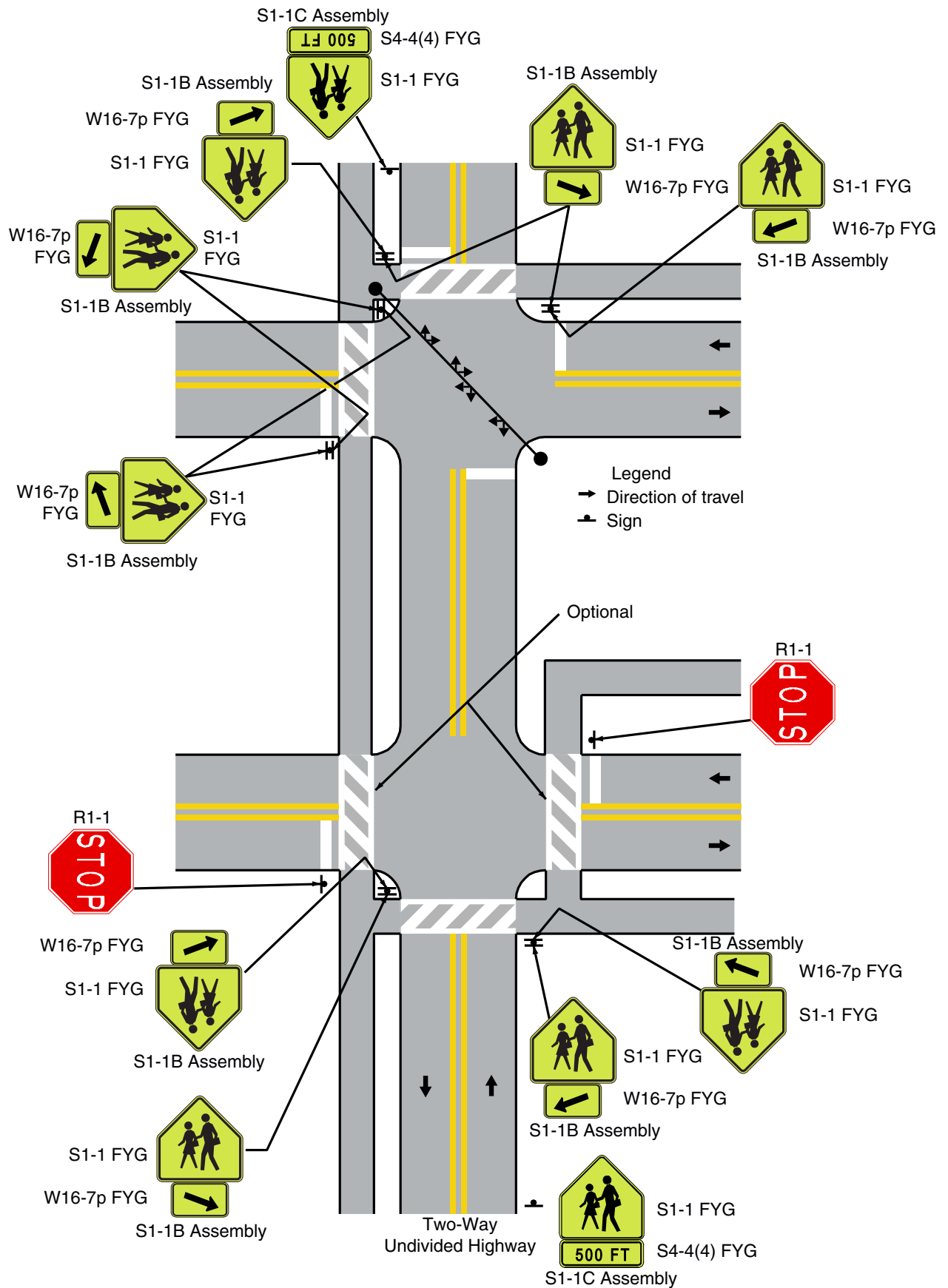


Figure 7B-3e. Examples of School Crossing Signs on Divided Highway 

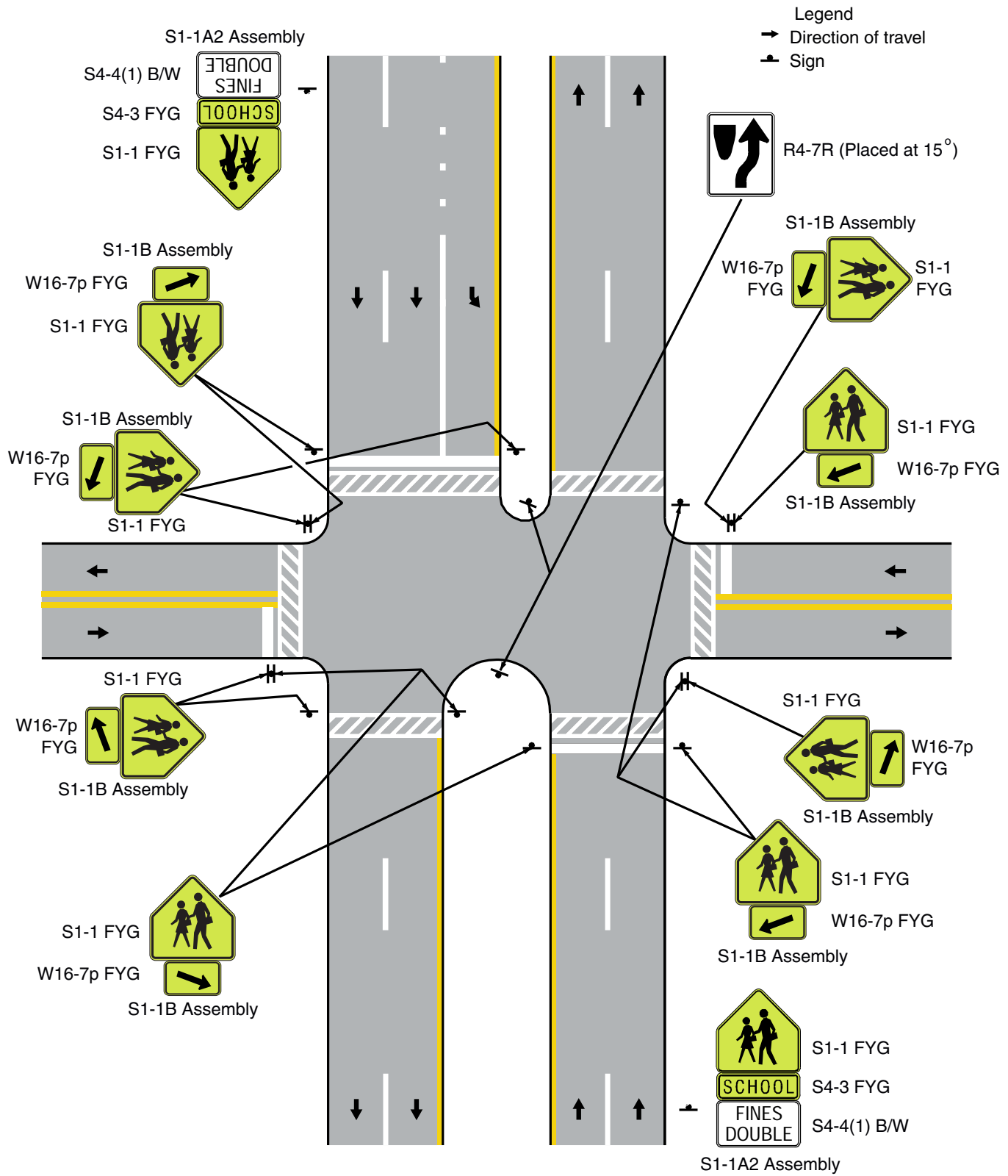


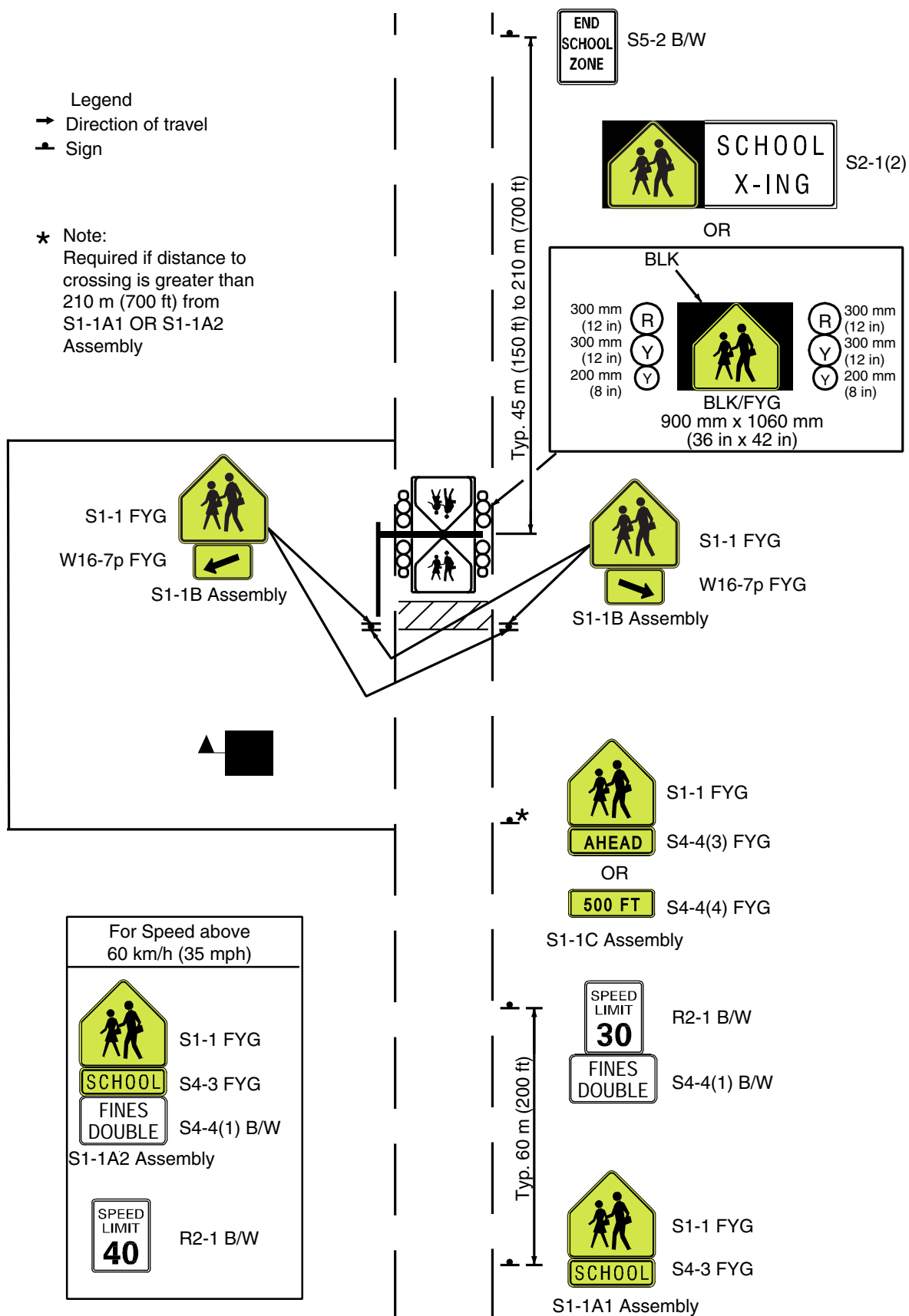
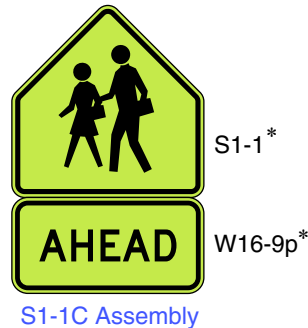
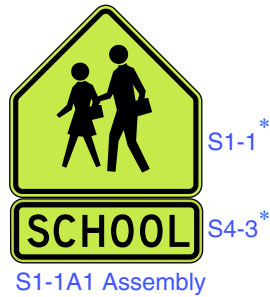
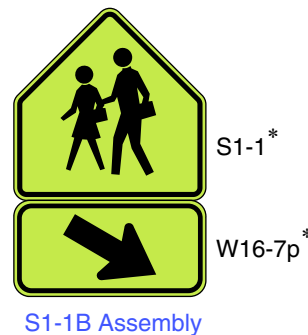
Figure 7B-3f. Examples of FITA Flag in the Air

Figure 7B-4. In-Street Signs in School Areas**a - In advance of the school crossing**

* Reduced size signs:
 S1-1 300 x 300 mm (12 x 12 in)
 S4-3 300 x 100 mm (12 x 4 in)
 W16-7p 300 x 150 mm (12 x 6 in)
 W16-9p 300 x 150 mm (12 x 6 in)

b - At the school crossing

OR



Sign R1-6 not used in Maryland

**Section 7B.11 School Speed Limit Assembly (S4-1, S4-2, S4-3, S4-4, S4-6, S5-1)****Standard:**

A School Speed Limit assembly (see Figure 7B-1) or a School Speed Limit (S5-1) sign (see Figure 7B-1) shall be used to indicate the speed limit where a reduced speed zone for a school area has been established (in accordance with law based upon an engineering study) or where a speed limit is specified for such areas by statute. The School Speed Limit assembly or School Speed Limit sign shall be placed at or as near as practical to the point where the reduced speed zone begins.

Guidance:

The reduced speed zone should begin either at a point 60 m (200 ft) from the crosswalk, or at a point 30 m (100 ft) from the school property line, based on which ever is encountered first as traffic approaches the school.

Standard:

The School Speed Limit assembly shall be either a fixed-message sign assembly or a changeable message sign.

The fixed-message School Speed Limit assembly shall consist of a top plaque (S4-3) with the legend SCHOOL, a Speed Limit (R2-1) sign, and a bottom plaque (S4-1, S4-2, S4-4, or S4-6) indicating the specific periods of the day and/or days of the week that the special school speed limit is in effect (see Figure 7B-1).

Option:

Changeable message signs (see Sections 2A.07 and 6F.55) may be used to inform drivers of the special school speed limit. If the sign is internally illuminated, it may have a white legend on a black background. Changeable message signs with flashing beacons may be used for the more critical situations, where greater emphasis of the special school speed limit is needed.

Guidance:

Even though it might not always be practical because of special features to make changeable message signs conform in all respects to the accepted standards, during the periods that the school speed limit is in effect, their basic shape, message, legend layout, and colors should conform to the standards for fixed-message signs.

A confirmation beacon or device to indicate that the speed limit message is in operation should be considered for inclusion on the back of the changeable message sign.

Option:

Fluorescent yellow-green pixels may be used when school-related messages are shown on a changeable message sign.

Changeable message signs may use blank-out messages or other methods in order to display the school speed limit only during the periods it applies.

Changeable message signs that display the speed of approaching drivers (see Section 2B.13) may be used in a school speed limit zone.

A Speed Limit Sign Beacon also may be used, with a WHEN FLASHING legend, to identify the periods that the school speed limit is in effect. The lenses of the Speed Limit Sign Beacon may be positioned within the face of the School Speed Limit (S5-1) sign (see Figure 7B-1).

A FINES HIGHER (R2-6) sign (see Section 2B.17) may be used to advise road users when increased fines are imposed for traffic violations in school zones.

Section 7B.12 Reduced Speed School Zone Ahead Sign (S4-5, S4-5a)**Option:**

The Reduced Speed School Zone Ahead (S4-5, S4-5a) sign (see Figure 7B-1) may be used to inform road users of a reduced speed zone when engineering judgment indicates that advance notice would be appropriate.

Standard:

If used, the Reduced Speed School Zone Ahead sign shall be followed by a School Speed Limit sign or a School Speed Limit assembly.

The speed limit displayed on the Reduced Speed School Zone Ahead sign shall be identical to the speed limit displayed on the subsequent School Speed Limit sign or School Speed Limit assembly.

Section 7B.13 END SCHOOL ZONE Sign (S5-2)**Standard:**

The end of an authorized and posted school speed zone shall be marked with a standard Speed Limit sign showing the speed limit for the section of highway that follows or with an END SCHOOL ZONE (S5-2) sign (see Figure 7B-1).

Section 7B.14 Parking and Stopping Signs (R7 and R8 Series)**Option:**

Parking and stopping regulatory signs may be used to prevent parked or waiting vehicles from blocking pedestrians' views, and drivers' views of pedestrians, and to control vehicles as a part of the school traffic plan.

Support:

Parking signs and other signs governing the stopping and standing of vehicles in school areas cover a wide variety of regulations. Typical examples of regulations are as follows:

- A. No Parking X:XX AM to X:XX PM School Days Only;
- B. No Stopping X:XX AM to X:XX PM School Days Only;
- C. X Min Loading X:XX AM to X:XX PM School Days Only; and
- D. No Standing X:XX AM to X:XX PM School Days Only.

Sections 2B.39, 2B.40, and 2B.41 contain information regarding the signing of parking regulations in school zone areas.

